

the telephone conferences of March 7 and 14, 2002. By this Amendment, Applicants have cancelled withdrawn claims 32-39.

Rejection under 35 U.S.C. § 112, first paragraph

In the Office Action, the Examiner rejected claims 1-8, 10-28, and 40 under 35 U.S.C. § 112, first paragraph, "as based on a disclosure which is not enabling." The Examiner cites *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976) in support of this proposition. Contrary to the Examiner's assertion, *In re Mayhew* does not apply to this situation. *In re Mayhew* requires that essential elements to the novel aspects of the invention be recited in the claims. The Examiner appears to be using *Mayhew* to suggest that anything recited in a preamble must be described in such detail in the claims that one with *no* skill in the art could make the invention. Nowhere in *Mayhew* does the court dictate a requirement as suggested by the Examiner.

To this point, claim 1 recites a "heating apparatus for biological samples." It is not necessary to recite every element necessary to build a fully functioning heating apparatus. In this case, the preamble merely places the rest of the claim in context of the field of the invention. Heating devices for biological samples, as a general field, are not novel, as stated in the specification at page 7, line 10, "[t]he specific type of heating apparatus is not a part of the instant invention." A specific heating apparatus having the claimed elements according to the instant invention fully complies with 35 U.S.C. § 112, first paragraph by claiming the essential elements with respect to the novel aspects of the heating apparatus. Applicants direct the Examiner to MPEP § 2164.01 for the Test of Enablement that states in part "[a] patent need not teach, and preferably omits what is well known in the art."

Must be recited in
claim body

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By way of example, according to the Examiner's interpretation of *Mayhew*, an applicant who claims an automobile would be required to claim every element necessary to make the automobile functional. *Mayhew* cannot be read to encompass such an interpretation. An applicant in the aforementioned example could rely on one of skill in the art to understand that an automobile would have an engine, a transmission, two or more wheels, etc. That applicant would be required only to claim the novel components of the automobile.

Even so, one of ordinary skill in the art should comprehend that a sample block, as recited in claim 1, is an element capable of assisting in performing the requisite heating. Assuming, *arguendo*, that the Examiner correctly interpreted *Mayhew*, as described in the specification at page 12, lines 18-20, there exists a "heat transfer rate between the sample block 14 and the sample well tray 16." Accordingly, one of ordinary skill in the art would understand the function of the sample block in assisting in the heating function of the apparatus as claimed and therefore, Applicants' obligation under 35 U.S.C. § 112, first paragraph has been met.

Rejection under 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 1-8, 10-28, and 40 as being indefinite. For the reasons stated above in conjunction with the rejection under 35 U.S.C. § 112, first paragraph, Applicants traverse the portion of this rejection relating to omitted elements. As stated above, Applicants' claims detail the invention in a manner so that one of ordinary skill in the art would be apprised of the invention.

Regarding the rejection of claim 27 for the phrase "may be", Applicants obviate this rejection by amending claim 27 to recite "is configured to". In addition, by this

Amendment Applicants have removed the word "heated" from claims 27 and 28 to maintain proper antecedent basis.

Regarding the rejection to claims 19 and 40, Applicants assert that "sufficient" is not a positive recitation. Applicants direct the Examiner to MPEP § 2173.05(b). As used in claims 19 and 40, "sufficient" describes a relative amount of force. For example in claim 19, Applicants recite "wherein said downward force imparted by the cover is sufficient to retain the sample well tray against the sample block when the cover is in said closed position." This claim clearly describes what conditions are to be met by the "sufficient" force and one of ordinary skill in the art would understand that any mechanism properly configured to "retain the sample well tray against the sample well block when the cover is in said closed position" would fall within the scope of the claim. Accordingly, Applicants assert that "sufficient", as used herein, is a positive recitation and meets the requirements of 35 U.S.C. § 112, second paragraph.

Rejections under 35 U.S.C. § 102

Throughout the rejections under 35 U.S.C. § 102, the Examiner has generally stated that the "process limitations are not accorded patentable weight in a claim which is drawn to an apparatus." Applicants assert that the recitations referred to by the Examiner are not, in fact, process limitations, but describe the functionality and structure of the device. For clarity only, Applicants amend claim 1 to recite that the "urging force is configured to urge." Regarding claim 40, as noted above in regard to the rejection under 35 U.S.C. § 112, second paragraph pertaining to "sufficient", the "pressing force" provides further definition as to a relative amount of force to be imparted by the urging

*No structure
to provide a pressing
force is disclosed*

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mechanism. No process or method step is set forth in either of these claims and, therefore, the recitations should be accorded patentable weight.

Aysta et al.

In the Office Action, the Examiner rejects claims 1-2, 11-12, 19-20, 24-25, and 40 as being anticipated by Aysta et al. ("Aysta"). Contrary to Examiner's assertion, Aysta does not teach a sample block with a plurality of recesses. First, Applicants note that the Examiner has pointed to two separate elements, 44 and 50 as being the sample block of Applicants' claim. Aysta describes element 44 as "bottom housing part 44", and element 50 as a "rack 50". See Aysta, col. 8, lines 27+. Applicants assert that these two separate elements cannot comprise a sample block as recited in claim 1.

Further, the Examiner refers to element 32 of Aysta as comprising a plurality of recesses. Aysta refers to element 32 as a "collecting container". Col. 6, lines 52+. The Examiner further states that sample well tray 54, 58 has a plurality of sample wells. Although Aysta refers to "vertical wells 58" at col. 8, lines 50+, these are not in fact wells as the term is commonly used because they do not have a closed bottom to keep the sample within the "well". Aysta further describes that these "wells" have a "small central channel (opening)" which allows fluid to pass through. Applicants have amended claim 1 to specify that "the sample wells are configured to contain a sample". As stated within Aysta, wells 58 are not "configured to contain a sample" because well 58 is configured to allow the material to flow into collecting container 32. In addition, collecting container 32 cannot be considered to be an opening "for receiving sample wells of a sample well tray" because the purpose of the collecting container is to receive

Sample block is defined as having a plurality of openings for receiving wells of sample well tray. (underline) Sample well tray (underline) due to bottom of housing part 44 accommodates a rack 50. Meet the claim limitation see col. 8 line 37-41

The sample is maintained in the wells 58 via a barrier that is located in the bottom of the well.

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the liquid that passes through well 58. If a closed sample well were placed in collecting container 32, it would render the device inoperable for the purpose intended, which as disclosed by Aysta is filtering. Accordingly, Aysta does not teach a sample well and sample block as described herein.

Further, regarding the Examiner's assertion that element 46 comprises an urging mechanism, Aysta states that element 46 is "a seal". Col. 8, lines 33+. Nowhere does Aysta teach that this seal in anyway "is configured to impart an urging force on the sample well tray". Aysta is silent regarding any properties of this seal and, therefore, absent any explanation contained within the reference, there is no suggestion that this seal performs the function of Applicants' urging mechanism as required in the claims. Accordingly, Aysta cannot anticipate either of claims 1 or 19.

Finally, regarding Aysta, nowhere does Aysta teach that the device is used to heat samples. Aysta discloses a filtration device that cannot be considered to be a heating apparatus as required by claims 1 and 19.

Root et al.

The Examiner rejects claims 1-8, 11-15, 19-28, and 40 as being anticipated by Root et al. ("Root"). As with Aysta, mentioned above, Root discloses a filtration device that performs no heating as described in claim 1. Also, similar to Aysta, Root teaches that "cylindrical recesses 214 have...central openings 217 through nozzles 218 for directing filtrate into an aligned well 78 below the transfer plate." Col. 8, lines 7+. Accordingly, Root does not teach "sample wells configured to contain a sample" as required by claim 1. Also, Root discloses wells 78, but the springs 204 do not act on the

the sample is contained in wells 20 of tray 19
until the pressure system is applied to force sample in wells 20 through membrane
see col. 8 line 24-27

Clearly the
collecting well does
receive sample
wells, see Fig 7

the specification
teach the urging
mechanism can
be:
washers,
washers or
conventionally
known as
a "seal"

no heating means
in claim

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wells 78. The purpose of springs 204 is to bias transfer plate 201 away from wells 78 and base 200. Accordingly because Root does not teach an "urging mechanism configured to impart an urging force on the sample well tray," as required by the claims, Root cannot anticipate claims 1 and 19.

Schneebli et al.

The Examiner rejects claims 1-8, 10-15, 19-26, and 40 as being anticipated by Schneebli et al. ("Schneebli"). The Examiner points to unreferenced springs distributed over the outer periphery of the sample block surface and states that the springs "inherently function to lift the multi-well plate upon removal of the cover 14." Contrary to the Examiner's assertion, this function cannot be deemed to be inherent in these unreferenced and undescribed springs. Schneebli specifically teaches ejector means 62-67 which comprise a combination of pins and ramps that is configured for "separating or removing the lower part of the reaction vessels 13 from the chambers 72 of thermal block 71." Col. 4, lines 45+. Because Schneebli teaches a completely separate device for separating the vessels from the chambers, the springs referred to by the Examiner obviously do not function to lift the multi-well plate upon removal of the cover 14. Further, Applicants point out that ejector means 62-67 are not interposed between the sample block and the sample tray as required by claims 1 and 19, so the ejector means of Schneebli cannot be considered to anticipate Applicants' claimed invention either.

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Elsener et al.

The Examiner rejects claims 1-3, 11-12, 19-21, and 40 as being anticipated by Elsener et al. (EP 1 088 590). The effective date of this reference for prior art purposes is April 4, 2001. Applicants filed the instant application on February 2, 2000. Accordingly, EP 1 088 590 has no prior art effect on this application, so the rejection is rendered moot.

Moser et al.

The Examiner rejects claims 1, 2, 19, and 40 as being anticipated by Moser et al. ("Moser"). As stated above, Applicants refute the Examiner's statement that certain of the recitations of claims 1 and 40 are process limitations and should not be granted patentable weight. Claim 1 requires "said urging force configured to urge the sample wells away from the openings in the sample block upon removal of a pressing force imparted on the top of the sample well tray...." Any pressing force provided by cover 28 is removed as soon as the cover is released from its closed position. Claim 1 requires the urging mechanism to be operative "upon removal of a pressing force", but Moser teaches the lifting-out device 53 being operable only after removal of the pressing force, when cover 28 is opened to a position so as to provide an additional force to actuate lifting-out device 53. Further, regarding claim 19, it recites "said urging mechanism imparting an upward force on the sample well tray, and wherein said downward force imparted by the cover is sufficient to retain the sample well tray against the sample well block when the cover is in said closed position." The lifting-out device of Moser imparts no such force as stated claim 19. In fact, Moser clearly states that "[w]hen the lid 28 is

Moser do teach
the urging mechanism
configured to urge
the sample wells away from the
openings in the sample block
when the lid is
opened therefore
teaching on the
basis of the claim

closed, the lifting-out device 53 is inoperative." Col. 5, lines 67+. Accordingly, Moser cannot anticipate either claim 1 or claim 19.

Rejections under 35 U.S.C. § 103

The Examiner rejects claims 16-18 as being unpatentable over Root or Schneebli in view of Schembri. Because these claims depend from independent claim 1, which Applicants assert is allowable for at least the above-described reasons, claims 16-18 should also be allowable.

Conclusion

Claims 1-8, 10-18, 19-28, and 40 are now in condition for allowance. Applicants respectfully request the reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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Dated: July 9, 2002

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Application Number: 09/496,408
Filing Date: February 2, 2000
Attorney Docket Number: 07414.0018

APPENDIX TO AMENDMENT OF JULY 9, 2002

Version with Markings to Show Changes Made

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Amendments to the Claims

1. (Twice Amended) A heating apparatus for biological samples, comprising:
a sample block having a plurality of openings for receiving sample wells of a
sample well tray therein, the sample wells being configured to contain a sample; and
at least one urging mechanism interposed between the sample block and the
sample well tray, said urging mechanism configured to impart an urging force on the
sample well tray,

[wherein] said urging force configured to urge[s] the sample wells away from the
openings in the sample block upon removal of a pressing force imparted on the top of
the sample well tray for pressing the sample wells into the openings of the sample
block.

27. (Amended) The heating apparatus of claim 26, wherein the sample well
tray holder [may] is configured to be pressed down by an outside portion of the [heated]
cover so that the sample well tray becomes disengaged from the sample well holder,
the urging mechanism no longer imparting an upward force on the sample well tray in
this position.

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28. (Amended) The heating apparatus of claim 27, wherein the sample well tray receives said upward force from the sample well tray holder when the outside portion of the [heated] cover is no longer pressed downward so that the sample well tray holder engages the sample well tray.

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